

Miami Township Fire and EMS Operating Procedures



TITLE:

POST-FIRE AIR MONITORING OPERATING PROCEDURE

#703

EFFECTIVE DATE:

06/15/2014

DATE AMENDED:

09/18/2015

REVIEW DATE:

03/18/2016

APPROVED BY:

Chief Steve Kelly

This Operating Procedure shall take effect immediately and shall remain in effect until superseded.

PURPOSE

Establish an Operating Procedure (OP) to monitor the atmosphere at any incident where atmospheric hazards are present, or are expected to be present.

These are not rules, but Procedures to be used under the best of conditions with the optimum resources available. It is important to note that judgment and discretion must be used on all functions, activities and operations of the department.

SCOPE

This OP applies to any incident in which atmospheric hazards are present, or are expected to be present, and can pose a risk to personnel and civilians. The goal is to reduce the risk of exposure to toxic levels of certain hazardous gases such as Carbon Monoxide (CO) and Hydrogen Cyanide (HCN) that can be encountered in the post-fire setting.

This Procedure does not limit a fire fighter from wearing an SCBA at any time.

DEFINITIONS

Permissible Exposure Limit (PEL)

The permissible exposure limit (PEL) is the time-weighted average threshold limit a person working an 8 hour shift can be exposed to a chemical without suffering ill effects.

Immediately Dangerous to Life and Health (IDLH)

An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

PROCEDURES

Atmospheric monitoring will occur in all post-fire situations and whenever deemed necessary by the Incident Commander or Safety Officer.

A. Incident Command and Safety

1. Personnel are required to wear SCBA until a safe atmosphere can be determined by post-fire air monitoring.
2. The Incident Commander will be responsible to ensure that post-fire air monitoring is conducted.
3. After a fire has been extinguished, the post-fire area will be ventilated and the Incident Commander shall order the environment monitored for air quality.
 - a. Anyone functioning within a post-fire environment can be assigned the task of air monitoring and will communicate directly with Incident Command or the Safety Officer if one is appointed.
 - b. Ventilation should take place for at least 15 minutes.



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B. Post-fire Air Monitoring

1. The post-fire air monitors will be carried in each engine. The following air monitors will be used for post-fire air monitoring:
 - a. Four-gas monitor
 - b. Cyanide monitor
2. Continuous atmospheric monitoring will continue whenever personnel are within a post-fire environment within a structure or ventilation-limited area.
 - a. Air monitoring is not needed when a burning odor is detected and there is no visible smoke.
3. The values of the monitored gases will be at or below the established PELs prior to personnel entering the area without the use of an SCBA.
 - a. The PELs are set at or below the established PELs of OSHA or NIOSH.

	PEL (OSHA)	IDLH
Carbon Monoxide (CO)	50 PPM	1200 PPM
Hydrogen Cyanide (HCN)	10 PPM	50 PPM
Hydrogen Sulfide (H₂S)	20 PPM	100 PPM
Oxygen	OSHA Acceptable Levels Between 19.5 - 23.5%	

4. Personnel may only enter the area without the utilization of an SCBA after atmospheric monitoring has occurred and upon declaration by the Incident Commander or designee that it is safe to do so.
 - a. If a reading exceeds the PEL, SCBA must immediately be utilized and/or the area vacated and ventilated.

C. Documentation

1. The results of atmospheric monitoring shall be documented every 10 minutes, along with a PAR and/or if the following condition occurs:
 - a. A 5 PPM increase in a reading is observed or when one of the readings exceeds the PEL.
2. The following information will be documented on the Post-fire Air Monitoring Form:
 - a. CO, HCN, Oxygen or other applicable toxic gas levels during the time of operation within a post-fire environment.
 - b. Areas monitored with corresponding values.
3. The Post-fire Air Monitoring Form will be attached to the corresponding Incident Report.